

Listing of The Claims:

1. (Currently amended) A method for indexing a database comprising:

associating a plurality of keys with a plurality of respective predetermined records in the database, wherein each key comprises a data string of one or more digits;

associating each digit in the data string with a respective level of a plurality of levels of said database as a function of the position of the digit in the data string;

obtaining an instruction at a first said level, wherein the instruction is associated with one or more records in the database; and

checking for another instruction at a second said level, ~~wherein the another instruction is associated with one or more records in the database;~~ and if the another instruction does not specify a record ~~is absent from the second level,~~ returning to the first level and indexing the data string in accordance with the one or more records associated with the instruction at the first level.
2. (Previously presented) The indexing method of claim 1 wherein each of said keys represents a group of telephone numbers.
3. (Previously presented) The indexing method of claim 2 wherein each of said keys is a specified portion of each telephone number of said group.
4. (Previously presented) The indexing method of claim 3 wherein said specified portion is a starting portion of said each telephone number of said group.
5. (Previously presented) The indexing method of claim 4 wherein said starting portion comprises one or more digits.
6. (Previously presented) The indexing method of claim 2 wherein said records are call processing instructions.

7. (Previously presented) The indexing method of claim 6 wherein said call processing instructions are routing instructions.
8. (Currently amended) The indexing method of claim 1 wherein said ~~constituent elements~~ digits are alphanumeric characters.
9. (Previously presented) The indexing method of claim 8 wherein each of said keys represents a group of data entries of said database.
10. (Previously presented) The indexing method of claim 9 wherein each of said records is a destination assigned to said group represented by said each key.
11. (Previously presented) The indexing method of claim 1 wherein a sequence of said plural levels corresponds to a sequence of said digits in said data strings.
12. (Previously presented) The indexing method of claim 11 wherein said sequence of the digits is a natural order of the digits in the data string.
13. (Previously presented) The indexing method of claim 12 wherein a first level represents a first digit, a second level represents a second digit, a third level represents a third digit, and so forth.
14. (Previously presented) The indexing method of claim 11 wherein said sequence of the digits is determined by a specified priority of each digit in the data string.

15. (Previously presented) The indexing method of claim 14 wherein a first level represents a digit of a highest priority, a second level represents a digit of a second highest priority, a third level represents a digit of a third highest priority, and so forth.

16. (Currently amended) A method of looking up records for a data string query in a database ~~indexed according to the indexing technique of claim 1~~, said database including said plural levels, said data string query comprising a string of digits, ~~constituent elements, each said element corresponding to a respective one of said digits, each said level corresponding to a respective one of said digits~~, said method comprising the steps of:

starting at a first level of said database;

checking for an indexing instruction for each said digit ~~constituent element of said data string query at each digit represented by each said~~ at a level corresponding to said digit and moving on to check a next level until an indexing instruction found at a last checked level does not include an sub-instruction to check a next level; and

if said indexing instruction found at said last checked level specifies one or more records, returning said specified records to said data string query, otherwise backing up one level at a time until an indexing instruction specifying one or more records is found, and returning said specified one or more records to said data string query.

17. (Original) The method of claim 16 wherein said data string query is a telephone number.

18. (Original) The method of claim 17 wherein said records are call processing instructions.

19. (Original) The method of claim 18 wherein said call processing instructions are routing instructions to route a call associated with said telephone number.

20. (Original) The method of claim 19 wherein said levels are checked in a sequence

corresponding to a sequence of said digits in said data string query.

21. (Original) The method of claim 20 wherein said sequence of the digits is a natural order of the digits in the data string query.

22. (Original) The method of claim 20 wherein said sequence of the digits is determined by a specified priority of each digit in the data string query.

23. (Currently amended) The method of claim 16 wherein said digits ~~constituent elements~~ of the data string query are alphanumeric characters.

24. (Original) The method of claim 16 implemented as a recursive algorithm computer program.

25. (Currently amended) A method of looking up records for a data string query in a database index, said data string query comprising a string of constituent elements each taking one digit in the string, said method comprising the steps of:

starting at a first level of a multilevel data structure;

checking for an instruction for each said constituent element of said data string at each digit represented by each level and moving on to check a next level until an instruction found at a last checked level does not include a sub-instruction to check a next level; and

if said instruction found at said last checked level specifies one or more records, returning said specified one or more records to said data string query, otherwise backing up one level at a time until a level with records to be returned is found; and

returning all ~~returning~~ records encountered in all levels in either an order encountered or in reverse order.

26. (Original) The method of claim 25 implemented as a recursive algorithm.

27. (New) A method for indexing a multilevel data structure, comprising:

associating a plurality of keys with a plurality of respective records in the data structure, wherein each key comprises one or more digits, each said digit having a digit position within its key;

associating a plurality of levels of the data structure with respective positions of the digits within the keys; and

providing at least one indexing instruction for each said level of the data structure, wherein each said indexing instruction comprises:

- a) a first sub-instruction comprising a direction to do one of:
 - i) proceeding to a next level of the data structure, and
 - ii) not proceeding to the next level of the data structure;

and

- b) a second sub-instruction comprising a direction to do one of:
 - i) specifying a record associated with the level; and
 - ii) not specifying a record.

28. (New) The method of claim 27 wherein each said indexing instruction at a given level is associated with a selected value of the digit at the position associated with the given level.

29. (New) The method of claim 27 wherein said indexing method is configured to enable a best-pattern-match comparison between a phone number and said plurality of keys in said multilevel data structure.